

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

IN RE THE APPLICATION OF)
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Robertson, Graham) Examiner: Madeline Gonzalez
)
SERIAL NO.: 10/543,042) Art Unit: 1797
)
FILED: July 21, 2005) Customer Number: 23644
)
FOR: Filtering Screen) Confirmation Number: 9184

RESPONSE TO FINAL OFFICE ACTION DATED OCTOBER 20, 2009

Honorable Director of Patents and Trademarks
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

In response to the Examiner's further and final Office Action of October 20, 2009, it is requested that the application be amended as follows:

DO NOT ENTER: /MG/

In the Claims

1. (currently amended) An integral screen for use in a vibrating machine for separating solids from liquid material, comprising a support structure defining a first rectangular opening, and woven wire cloth of orthogonal warp and weft wires, the first rectangular opening in the support structure including a plurality of similarly dimensioned, similarly orientated and regularly arranged smaller rectangular openings or windows, formed by a lattice of struts criss-crossing the first opening, wherein the cloth is bonded to the support structure, being bonded to the lattice struts as well as the boundary of the first opening, and with the cloth extends extending in a tensioned state across the first opening, the cloth has rectangular openings in the weave, having a greater number of warp wires per unit length than there are weft wires per unit length, and the orientation of the cloth is such that the warp wires extend across the width (i.e. shorter dimension) of the first rectangular opening and the weft wires extend across the length (i.e. longer dimension) of the first rectangular opening, with the warp wires also being parallel to the width dimension (i.e. the shorter sides) of the smaller rectangular openings.
- 2-5. (cancelled)
6. (previously presented) A screen as claimed in claim 1 wherein the warp wires have a cross-sectional area of between 10% and 30% greater than the weft wires.
7. (original) A screen as claimed in claim 6 wherein the warp wires have a cross-sectional area in the range 20% to 25% greater than the weft wires.
8. (original) A screen as claimed in claim 7 wherein the warp wires have a cross-sectional area 22% greater than that of the weft wires.
9. (previously presented) A screen as claimed in claim 1 wherein the wires are of circular cross-section.
10. (original) A screen as claimed in claim 9 wherein the diameter of the larger warp wires is 0.046 mm, and the diameter of the weft wires is 0.036 mm.

11-17 (cancelled)

18. (currently amended) An integral screen for use in a vibrating machine for separating solids from liquid material, comprising a support structure defining a first rectangular opening, and woven wire cloth of orthogonal warp and weft wires, the first rectangular opening in the support structure including a plurality of similarly dimensioned, similarly orientated and regularly arranged smaller rectangular openings or windows, formed by a lattice of struts criss-crossing the first opening, wherein the cloth is bonded to the support structure, being bonded to the lattice struts as well as the boundary of the first opening, and with the cloth extends extending in a tensioned state across the first opening, the cloth has generally square openings in the weave, the warp wires have a greater cross-sectional size than the weft wires, and the orientation of the cloth is such that the warp wires extend across the width (i.e. shorter dimension) of the first rectangular opening and the weft wires extend across the length (i.e. longer dimension) of the first rectangular opening, with the warp wires also being parallel to the width dimension (i.e. the shorter sides) of the smaller rectangular openings.
19. (previously presented) A screen as claimed in claim 18 wherein the warp wires have a cross-sectional area of between 10% and 30% greater than the weft wires.
20. (previously presented) A screen as claimed in claim 19 wherein the warp wires have a cross-sectional area in the range 20% to 25% greater than the weft wires.
21. (previously presented) A screen as claimed in claim 20 wherein the warp wires have a cross-sectional area 22% greater than that of the weft wires.
22. (previously presented) A screen as claimed in claim 18 wherein the wires are of circular cross-section.
23. (previously presented) A screen as claimed in claim 22 wherein the diameter of the larger warp wires is 0.046 mm, and the diameter of the weft wires is 0.036 mm.
24. (currently amended) A vibrating machine for separating solids from liquid material, the machine including an integral screen over which solids flow in a specified direction, the screen comprising a support structure defining a first rectangular opening, and woven wire

cloth of orthogonal warp and weft wires, the first rectangular opening in the support structure including a plurality of similarly dimensioned, similarly orientated and regularly arranged smaller rectangular openings or windows, formed by a lattice of struts criss-crossing the first opening, wherein the cloth is bonded to the support structure, being bonded to the lattice struts as well as the boundary of the first opening, and with the cloth extends extending in a tensioned state across the first opening, the cloth has rectangular openings in the weave, having a greater number of warp wires per unit length than there are ~~well~~ weft wires per unit length, and the orientation of the cloth is such that the warp wires extend across the width (i.e. shorter dimension) of the first rectangular opening and the well wires extend across the length (i.e. longer dimension) of the first rectangular opening, wherein the ~~well~~ weft wires of the cloth are aligned with said specified direction of solids flow over the screen, with the warp wires also being parallel to the width dimension (i.e. the shorter sides) of the smaller rectangular openings.

Remarks

The Examiner's reconsideration of the application is requested in view of the amendments above and comments which follow.

Turning first to the amendments, the amendments of claim 1 are to insert the subject matter of claims 2 and 3 into independent claim 1, as well as independent claims 18 and 24. As such, it is submitted that the amendments should be entered after a final rejection given the previous existence of claims 2 and 3 in the application.

In the Office Action, the Examiner has rejected claims 1-3, 9, 18, 22 and 24 under 35 U.S.C. § 102(b) as being anticipated by Adams et al. published Application No. US 2002/0023883. Reconsideration is requested, as the applicant does not agree with the Examiner's position that Adams anticipates the claims, nor that it renders the remaining claims obvious. That is explained immediately below.

The present invention is concerned with the orientation of a woven wire cloth or screen (having warp and weft wires) with respect to a support structure (frame) defining one or more rectangular openings, to which the cloth is bonded.

In the prior art, as represented in Figures 6 and 7 of the present invention, the cloth is oriented so that the warp wires extend along the length of the rectangular opening of the support.

In contrast, in the present invention, as represented in Figure 8, the cloth is oriented so the warp wires extend across the width of the rectangular opening.

This relationship between the cloth and support is not disclosed in Adams. There is no discussion in Adams of the orientation of warp and weft wires relative to the support structure. Furthermore, there is no disclosure or suggestion of orientating a woven wire cloth in such a screen with its warp wires extending across the width of a rectangular opening in the support structure as is required by the present invention.

Although Adams discloses a rectangular mesh screen, e.g. as shown in Figure 19D, and states in paragraph 0061 that fluid flow may be either in the direction of the length of the non square openings or in the direction of the width of the non square openings, there is no disclosure in Adams of the relationship of the screen to the support.

On pages 2 to 3 of the action, the Examiner asserts that Adams discloses various features, but, with respect, applicant does not think that the statements are correct. Figure 19 of Adams, as

discussed at paragraphs 0057 to 0059, discloses a screen assembly comprising a support 213, e.g. support strips or frame, etc, and a series of rectangular mesh screens such as screens 212, 214 and 216. The last sentence of paragraph 0057 states that any two adjacent or all three screens may be bonded or connected together in any known manner, but no detail is given of the relationship between the mesh screens and the support. Paragraph 0061 says that the direction of fluid flow can be either in the direction of the length of the elongate openings of the screens of Figures 19C and 19D, i.e. left to right, or in the direction of the width of the openings, i.e. top-bottom. However, there is no disclosure of the relationship of the screen to the support.

Contrary to the Examiner's assertions, applicant can find no disclosure in Adams of an integral screen, namely a screen with a screen cloth bonded to a support structure and extending in a tensioned state across the support structure opening. Further, applicant can find no disclosure in Adams of the orientation of the cloth relative to a rectangular opening in a support structure, namely with the warp wires extending across the width. Although paragraph 0061 of Adams refers to two possible directions of flow, this can only sensibly be interpreted as referring to the orientation of the entire screen assembly, comprising screen and support, and not changing the orientation of the screen relative to the support.

There is also no disclosure in Adams of a support comprising an array of rectangular openings or windows, formed by a lattice of struts criss-crossing the larger opening, with the cloth bonded to the lattice struts, as specified in our present claim 2. The Examiner has referred to paragraph 0057 of Adams as allegedly disclosing this, but this simply refers to the possibility of bonding two or three screens together and is silent about the construction of the support and the connection of the screen thereto. It would seem that the Examiner is perhaps equating the lowermost screen with the support in a way that is not appropriate.

As far as independent claim 18 is concerned, the Examiner refers to Figures 4A and 5A of Adams as disclosing a cloth with generally square openings with warp wires, e.g. 106, having a greater cross sectional than weft wires, e.g. 102. Again, it is submitted that this is not an accurate statement as these Figures illustrate various arrangements with mixed smaller and larger diameter wires, and there is no disclosure of an arrangement in which all of the warp wires are of greater cross sectional area than all of the weft wires.

The Examiner's reading of Adams thus appears somewhat more expansive than justified.

Although applicant believes that the present claims are distinguished from Adams, applicant nevertheless proposes limiting the independent claims by introducing reference to the support having a plurality of rectangular openings, as specified in present claims 2 and 3. This provides an additional structural distinction over the prior art.

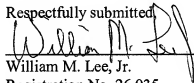
Applicant has also amended claim 18 to clarify that all of the warp wires have a greater cross sectional size than the weft wires.

Adopting the particular orientation of the woven wire cloth with respect to the support structure in the way that is crucial to the invention brings about benefits, as discussed in the paragraph bridging pages 6 and 7 of the August 10, 2009 response, in a way that does not arise with the structures disclosed in Adams.

It is therefore submitted that the application, as claimed, distinguishes from and is allowable over the prior art. Entry of this response and allowance of the application are therefore respectfully requested.

December 14, 2009

Respectfully submitted,



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